

Class XII  
Subject: Bio Technology  
Syllabus

Month	Name of Book	Topics & Chapters	Theory Period	Revision Periods	Practical
April		Unit-5 Protein & Gene Manipulation Ch. I : Recombinant DNA Technology Introduction Tools of rDNA Technology, Making of Recombinant DNA. DNA library, Introduction of Recombinant DNA into host cells, Identification of recombinants, Polymerase chain Reaction (PCR).	20	4	16
May		Unit- 5 Protein & Gene Manipulation Ch. I : Recombinant DNA Technology Hybridization Techniques, DNA Sequencing, Site-directed mutagenesis, DNA Library DNA Probes.	20	4	16
June Summer Vacation					
July		Unit- 5 Protein & Gene manipulation Ch. II : Protein structure & Engineering Introduction of world of Protein, 3 D shape of Proteins, Structure-Function Relationship in Proteins, Purification of Proteins. Characterization of Proteins, protein Based Products, Designing Proteins.	20	4	16
August		Ch. III : <b>Genomics And Bioinformatics</b> Introduction, Genome Sequencing Project, Gene prediction and counting Genome Similarity, SNPs and Comparative Genomics, Functional Genomics.	19	5	16
September		Unit- 5 Protein & Gene Manipulation Ch. III : Genomics & Bioinformatics History of Bioinformatics, Sequences and nomenclature, information sources, Analysis using Bioinformatics tools Proteomics.	19	5	16
October		Unit- 6 : Cell Culture Technology Ch. I : Microbial Culture & Application:	19	5	16

		Introduction, Microbial culture Techniques, Measurement and kinetics of microbial growth, Scale up of microbial process, isolation of microbial products, Strain isolation and improvement			
November		Unit-6 Cell Culture Technology Ch. I : App. Microbial culture & Application : Application microbial culture technology, Bioethics in microbial Technology. Ch. II : Plant cell culture and Application Introduction, cell & tissue culture Techniques, Application cell and tissue culture	19	5	16
December		Unit- 6 Cell culture Technology Ch. II : Plant cell culture & Application Gene Transfer methods in plants, Plants with Beneficial Traits, Diagnostics in Agriculture and Molecular Breeding, Bioethics in Plants Genetic Engineering.	15	3	12
Jan		Unit- 6 Cell Culture Technology Ch. III : Animal cell Culture and Applications Introduction, Animal Cell Culture Techniques, Characterization of cell lines, scale up of Animal culture process, Application of Animal cell culture, stem cell Technology Bioethics in Animal Genetic Engineering, Tissue Engineering. Methods of Gene Delivery into the cells.	18	6	16
February		Revision			
March		Exam			